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AUTHOR Soar, Robert S.; And Others
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ABSTRACT

This study identified two groups of teachers with different control styles and examined changes in their behavior during the year. Seventeen K-2 teachers who varied in control style were observed at the beginning of school, in late October, and during the winter. Four observation instruments, a rating device, and a classroom description were used. Analysis of variance with repeated measures showed less convergent teaching, direction, and criticism for low control teachers, but more differentiation, exploration of ideas, and acceptance. Strong teacher control, pupil negative affect, and application of previous learning decreased for both groups while teacher acceptance increased. Two interactions were significant. (Author)

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Change in Classroom Behavior from Fall to Winter For High and Low Control Teachers

by

Robert S. Soar
College of Education
University of Florida

Ruth M. Soar
Florida Educational Research and Development Council

Marjorie Ragosta
Educational Testing Service

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Introduction

"Never smile before Christmas," is an example of the sort of aphorism which is common in the area of classroom management, but although this is an area of perennial concern for many teachers, relatively little research has been directed toward it. For example, the Handbook of Research on Teaching (Gage, 1963) does not index management at all, and discipline is only cited in the chapter on teaching in nursery schools. Neither term is immediately apparent in the Encyclopedia of Educational Research (Ebel, 1969) nor are related terms productive of research findings in either source.

A notable exception to this lack of research has been an intensive series of projects reported by Kounin (1970), who failed to find support for a number of popular beliefs about classroom management, and presented a series of new, empirically based concepts.

The development of an observation instrument for management behavior and its validation have been reported by Soar, Soar and Ragosta (1971) by Soar (1971 a,b), Soar & Soar (1972), and Soar (1972). The work reported here is drawn from the last of those sources.

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Objectives

One of the questions which is often debated, as represented by the aphorism at the beginning of this paper, is whether a desirable way to organize a new class is to set firm structure, with a clear set of rules and a stringent enforcement procedure. This would be a specific example of the general question which is explored in this study. The objective of the study in brief was:

> To identify two sub-groups of teachers high and low in the amount of teacher control excercised in mid-year, and to contrast classroom organization for these two groups of teachers from the beginning of the next fall until midwinter.

Procedure

The collection of data in the project took place in the context of a series of three studies adjunctive to the national evaluation of Project Follow Through. The focus of these studies was the description of a number of experimental programs and a sample of comparison classrooms by means of systematic observation: to describe and differentiate programs, and to identify dimensions of classroom behavior irrespective of programs which were, in turn, related to measures of pupil growth collected by the major outside evaluator.

Subjects

Two contrasting sub-groups of ten teachers each, high and low in the degree of control exercised over the behavior of individual pupils, were selected on the basis of the second year's observational data from kindergarten and first grade classrooms. Two teachers from one sub-group, and one from the other were lost as a consequence of teacher strikes, which ultimately resulted in sufficient tension in the systems involved that adding an observer to the stress already present seemed unwise. By the time it was clear that these teachers should be dropped, it was too late to replace them with other teachers in the first week

of school. Three additional teachers were replaced after observers were in the field. These replacements were necessitated by absences of the teachers who were scheduled to be observed. Since it was planned to complete all of the observations during the first week of schook, observers simply replaced the selected teacher with an available teacher at the same location. Although this was a less than desirable procedure, the fact of time pressure, and of observers being scattered across the country made the choice one of accepting replacement teachers or simply reducing the number of cases by that amount. The teachers and communities included were as follows: Berkeley, 3; Duluth, 2; Ft. Worth, 2; Jacksonville, 2; Philadelphia, 6; and Vincennes, 2.

Observation Instruments

Florida Climate and Control System (FLACCS). Past work contributing to the development of this instrument is summarized in the Soar (1971a) reference. In brief, interventions by the teacher intended to alter the behavior of pupils are recorded, with many of the items scaled for the degree of coerciveness involved, both verbal and non-verbal; also reflected are responses of pupils to teacher control attempts, assumption of responsibility by pupils, and the groupings present in the classroom. The other major dimension of the instrument is affect expression in the classroom, verbal and non-verbal, teacher and pupil, positive and negative.

Teacher Practices Observation Record (TPOR). This instrument records teacher behaviors in agreement or disagreement with Dewey's philosophy of Experimentalism (Brown, 1968). The areas of classroom activity examined include nature of the situation, nature of the problem, development of ideas, use of subject matter, evaluation, differentiation, and motivation and control.

Florida Taxonomy of Cognitive Behavior, K-1 (COGTAX). This was a new instrument developed for use in these projects to represent the cognitive level

of teacher/pupil interaction in kindergarten and first grade classrooms following Bloom's taxonomy of cognitive objectives (Bloom and others, 1956). The instrument is presented in Soar (1971a, 1972). Its immediate precursors are the Florida Taxonomy of Cognitive Behavior (Brown, Ober, Soar, & Webb, 1972) and Sanders (1966).

Reciprocal Categories System (RCS). This instrument is an extension of the original Flanders system (1970) which incorporated a number of intervening revisions. (Ober, Bentley, and Miller, 1971). Several major changes from the Flanders system have been made: lecture has been sub-divided into that which is responsive to a question, and that which is self-initiated, and criticism or justification of authority has been replaced by two items, one of which reflects correction without criticism, the other criticism; and all of the items have been redefined so that they are usable for either teacher or pupil, with teacher categories numbered 1 through 9, 10 is silence and confusion, and 11 through 19 are pupil categories paralleling the teacher categories.

Global Ratings. At the end of the day's observation, both of the observers independently completed a series of ratings dealing with such things as the response of school staff and pupils to the observers, degree of cognitive focus in the classroom, use of "game like" activities, teacher voice inflection, and the extent to which pupil reinforcement came from adults, other pupils or materials, and others.

Classroom Description. This was a record of such static aspects of the classroom as the number of adults present, number of pupils, ethnic groups of both, the arrangement of furniture, reading centers and interest centers, community size, school hours, time given over to recess and snacks, structured learning with the teacher, structured learning without the teacher, and physical characteristics of the classroom such as size, carpeting, and soundproofing.

Observation Schedule and Procedure

The first observation was carried out in each classroom during the first week of school, often on the first full day of class. The second set of observations was completed in late October or early November, and the third set took place as a part of the total data collection of the third year's work, beginning the second week after Christmas vacation, and finishing the middle of March.

The team of two observers spent a day in each classroom, initially completing portions of the classroom description which represented physical aspects of the setting, then observed, one with FLACCS, the other with the TPOR. Their observations were carried out in parallel periods of five minutes each, and simultaneous to these observations an audio tape recording was made using a small battery powered recorder with a directional microphone. After six 5 minute observations had been completed, the observers exchanged instruments, and completed another six 5 minute periods. After finishing in the classroom, each observer completed the global ratings, and the portions of the classroom description dealing with use of time. Later, the audio tape was used as the source from which the Cognitive Taxonomy and the RCS were coded.

Analysis of Data

The data of each item of each observation instrument were area transformed to make the distributions as nearly normal and equal in variance as possible. The data of each instrument were then factor analyzed, using principal components extraction and varimax rotation, rotating several numbers of factors and choosing that rotation which seemed to result in the clearest interpretation. Factor scores were then produced for each teacher for each factor for each instrument for the three observation periods. There were two excep-

tions to this general procedure; one for FLACCS where the number of items was too large to be processed in a single factor analysis, so that separate analyses were carried out for the affect and control sections, with the highest loading items from each analysis carried forward into a combined analysis from which factor scores were produced. The other exception was the Global Rating and Classroom Description data (GRCD) which were analyzed together in a single factor analysis.

From these five factor analyses, a total of 39 factors were obtained descriptive of the classroom at each of these three points in time.

The factor scores from each of the instruments were then analyzed by analysis of variance with repeated measures, with high or low control status as one factor, and time of observation the other factor.

Two analyses were carried out for Factor 1 of FLACCS: one involved only the 14 teachers on whom previous year data were available, the other for FLACCS 1 (and all other factors) included the three replacement teachers, classified only on fall observation data, and with the original 14 classified on previous year data and fall data, equally weighted. The results from these analyses are the ones presented in this paper.

Results

The results are shown in Table 1.

FLACCS Factors. The F ratios for Factor 1, Strong Control, based on the previous year's classification were not significant, although they were in the expected direction. The failure of the two groups to differentiate may partly be a function of the fact that the factor representing strong teacher control differed somewhat from year to year. The previous year's factor was less strong, in terms of number of items, and did not reflect teacher controlling behavior as clearly as the second year's factor did. Pupil disobedience was also more clearly represented in the second year data. When the analysis was run on the total

Table 1

Significant Differences for High and Low Control Teachers at Three Points in Time

	Factor		Means by Time 1	2	3	F	Control High	Low	F	Interaction F
FLACCS	1[a]	Strong Control	51.1	48.9	48.2	2.48	51.6	47.2	2.59	.37
	1[b]	Strong Control	52.1	49.8	48.5	4.51*	54.2	45.6	34.63**	1.99
	6	Work Without Teacher	49.3	53.1	50.7	4.09*	46.5	56.2	12.49**	.40
	7	Pupil Negative Affect	54.8	53.2	49.7	6.95**	53.0	52.1	.17	1.05
	9	Teacher Positive Affect	50.2	50.4	52.8	1.82	47.5	55.2	10.97**	.10
TPOR	1	Convergent Teaching	46.2	47.7	45.4	2.37	48.6	44.0	4.98*	1.76
	4	Undifferentiated Teaching	50.3	47.9	50.4	2.41	53.6	44.9	7.78**	.56
	5	Pupil Free Choice vs Teacher Structured Activity	53.3	54.6	53.0	2.12	51.5	56.1	4.10	5.25*, 6.20**
	6	Unnamed	47.8	49.0	49.6	1.72	49.5	48.1	1.97	
	7	Exploration of Ideas vs Textbook Learning	52.0	54.3	53.5	3.08	50.7	56.2	12.73**	.28
RCS	4	Teacher Direction and Criticism vs Teacher Indirect	52.0	52.6	49.3	1.62	54.3	48.0	26.56**	1.93
	7	Teacher Acceptance vs Teacher Correction	42.7	43.8	50.8	10.73**	41.4	50.6	21.19**	.17
COGTAX	2	Applying Previous Learning	56.4	56.8	50.9	3.44*	54.7	54.6	0.00	1.84
GRCD	6	Unstructured vs Structured Time	57.3	57.7	50.7	6.72**	50.7	60.3	3.20	2.25

[a]Based on previous year's classification (N=14)

[b]N= 17 for this and following tests.

*$p < .05$ **$p < .01$

group the difference between high and low control teachers was highly significant, as would be expected, but the difference has uncertain meaning, since the test was based in part on the classification. Both groups of teachers decreased significantly in the amount of strong control exercised over the three time periods. Although the interaction did not reach significance, most of the decrease occurred in the high control subgroup. At the winter observation, this high control group of teachers was scarcely above the mean for the group of teachers in the larger study and would not, at that point, have been selected as a high control subgroup. One reason for the decrease in strong control by high control teachers may be that knowing they were part of a small subgroup being observed more frequently than others may have led to change in their behavior. Samph's (1968) data indicated that criticism of pupils was one aspect of a teacher's behavior that changed significantly when she knew she was being observed, in contrast to a recording of her behavior made without her knowledge.

Significant differences between groups and over time were also observed for FLACCS 6, Work Without the Teacher. More work without the teacher occurred in low control classrooms than high, indicating that in low control classrooms, pupils worked independently more often. In both sets of classrooms, work without the teacher increased at the second observation, and at the third returned to nearly the same level as at the beginning of the year. Several other factors showed this same pattern of change. One possibility may be that six of the teachers in this substudy were from Philadelphia, where winter observations began, so that they were observed the second week after Christmas vacation. It seems possible that some reorganizing and beginning new units of study may have occurred then, paralleling the organizing at the beginning of the year.

FLACCS 7, Pupil Negative Affect, showed significant decrease over time for both groups but no significant difference between groups nor any interaction.

Apparently teachers using the different control styles represented were equally successful at reducing negative pupil affect as the school year progressed.

Significant differences between groups were observed on FLACCS Factor 9, Teacher Positive Affect, with low control teachers expressing more positive affect. Although there was a tendency toward increasing positive affect for all teachers over time, it was not significant.

TPOR Factors. TPOR Factor 1, Convergent Teaching, showed a higher mean for high control teachers than low, which seems reasonable. Even so, they were below the mean for the larger study. Factor 4, Undifferentiated teaching, was significantly higher for high control teachers than low. It seems reasonable that it would be harder to exercise close control over a number of activities than a few.

TPOR 5, Pupil Free Choice vs Teacher Structured Activity, showed a highly significant interaction, with high control teachers showing an increase in Pupil free choice from the first to second observation, with the new level maintained at the third observation, whereas low control teachers maintained a higher level of Pupil free choice for the first two observations which declined considerably by the third. Apparently the high control teacher started with a somewhat tighter structure which was soon relaxed, whereas the low control teacher permitted more pupil choice in the beginning, which became structured more slowly.

TPOR 6, which was unnamed, showed a highly significant interaction, based mainly on an extremely low score for low control teachers at the first observation. At the second and third observations, the low and high control groups were quite similar. This finding is uninterpretable since the meaning of the factor is not clear.

A highly significant difference between groups was found for TPOR 7, Exploration of Ideas vs Textbook Learning, with higher scores on the factor for low

control teachers, which seems reasonable. There was a trend toward greater exploration of ideas for both groups at the second observation, but it was not significant.

RCS Factors. There were fewer significant differences for RCS than for the systems used in 'live' observation. RCS Factor 4, Teacher Direction and Criticism vs Teacher Indirect, showed a highly significant difference between groups, with greater criticism for high control teachers. There was also a slight trend for criticism to decrease over time, which paralleled the finding for FLACCS 1, Strong Control, but in this case the trend was not significant.

Factor 7, Teacher Acceptance vs Teacher Correction, showed significant change over time as well as a significant difference between groups. Low control teachers accepted more, or corrected less, than high control teachers, and both groups of teachers accepted more or corrected less as time passed. This result also appears to parallel that for FLACCS.

COGTAX Factors. Only one factor from the Cognitive Taxonomy had a significant F ratio -- that was Factor 2, Applying Previous Learning. The two groups were virtually identical, in overall means. However, there was significant change over time. The first two observations were very similar, but the mean for the third observation dropped essentially to the mean for the larger sample. Perhaps the higher fall scores reflected reviewing and reference to earlier work as the year's work got underway, but dropped to the rate typical of new learning by the winter observation.

GRCD Factors. GRCD 6, Unstructured vs Structured Time, did not differ significantly between the high and low control subgroups, but the decline in unstructured time (increase in structure) was significant across the three observations. Although the interaction did not reach significance, the low

control subgroup actually increased in unstructured time at the second observation, but showed a sharp drop at the third observation. This finding agrees with TPOR 5, Pupil Free Choice vs Teacher Structured Activity, in showing an increase in structure at the third observation for low control teachers.

Summary of Differences

In summary, the low control teachers exercised less strong control than the high control teachers; they also had more pupil work without the teacher and expressed more positive affect. They did less convergent teaching, differentiated more, and encouraged greater exploration of ideas. They directed and criticized less and showed greater acceptance. All of these appear to be reasonable differences between groups of teachers selected on the basis of differences in the coerciveness of the control methods they used.

With respect to changes over time, strong control by the teacher, expression of pupil negative affect, application of previous learning (perhaps reviewing), and pupil unstructured time decreased, and teacher acceptance increased. Several other measures were different on the second observation from the first and third; work without the teacher and pupil free choice were higher at the second observation; along with a trend for greater exploration of ideas which was not significant. Undifferentiated teaching was also lower at this point, meaning that differentiation was higher as work without the teacher and pupil free choice were higher. The possibility was suggested that a number of the teachers in the subsample were observed the second week after Christmas, so that the similarity of first and and third observations may represent a "recycling" or beginning a new phase of work.

There were two significant interactions: one was not interpreted since the factor was unnamed; the other suggested that high control teachers started

with little pupil freedom and increased it, whereas low control teachers started with high pupil freedom and decreased it.

Although the large number of tests performed (120) makes it likely that some (6) will be significant by chance, the coherence of the findings (with the exception of the unnamed factor) suggests their meaningfulness.

Implications

These results appear to offer little support for the idea of beginning class in the fall with close teacher control of pupil behavior and a stringent enforcement procedure. Rather, a number of aspects of classroom process which would be valued by many were found to a greater degree in classrooms which were first organized under minimal teacher control, and in which structured pupil activities developed as the year progressed. There is little evidence here to support the usefulness of the aphorism, 'Never smile before Christmas'.

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